

WHAT IS CLAIMED IS:

1. A computer-implemented system for graphical design and automatic generation of supply chain collaboration services capable of understanding supply chain semantics, the system comprising:

5 a collaboration service designer, comprising software operable to:

provide a graphical user interface (GUI) for soliciting from a user information regarding a design for a supply chain collaboration service and receiving from the user the solicited information regarding the design for the supply chain collaboration service;

10 solicit from the user, using the GUI, information regarding the design for the supply chain collaboration service in a predetermined sequence of design steps, particular information regarding one or more particular aspects of the design for the supply chain collaboration service being solicited at each design step;

15 receive from the user, using the GUI, the solicited information regarding the design for the supply chain collaboration service in the predetermined sequence of design steps, the user being prevented from proceeding from a current design step to a subsequent design step until the particular information regarding the one or more particular aspects of the design for the supply chain collaboration service being solicited at the current design step is received from the user;

20 generate a file based on the information regarding the design for the supply chain collaboration service received from the user, the file containing a meta-model for the supply chain collaboration service; and

25 communicate the file containing the meta-model for the supply chain collaboration service for access by a collaboration service generator; and the collaboration service generator, comprising software operable to:

access the generated file containing the meta-model for the supply chain collaboration service; and

using the meta-model for the supply chain collaboration service contained within the accessed file, automatically generate the supply chain collaboration service, the generated supply chain collaboration service capable of understanding of supply chain semantics for an underlying supply chain.

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2. The system of Claim 1, wherein the collaboration service designer comprises a wizard.

3. The system of Claim 1, wherein the GUI generates a plurality of displays for presentation to the user, each display operable to solicit and receive from a user particular information regarding one or more particular aspects of the design for the supply chain collaboration service; and

each design step is associated with a particular display presented to the user, the particular display making one or more associated design options available to the user.

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4. The system of Claim 1, wherein the collaboration service designer is operable to access one or more document type definitions (DTDs) to determine one or more particular design options to make available to the user through the GUI in connection with each design step.

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5. The system of Claim 4, wherein the collaboration service designer is operable to make available to the user through the GUI a first design option allowing for creation of hierarchical collaborative transaction types, a second design option allowing for creation of roles types associated with an underlying supply chain, and at least one additional design option.

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6. The system of Claim 1, wherein the file comprises an Extensible Markup Language (XML) file.

7. The system of Claim 1, wherein:

the collaboration service designer and collaboration service generator are separate software components running on physically distinct computer systems; and

5 the file generated by the collaboration service designer containing the meta-model for the supply chain collaboration service is stored for later access by the collaboration service generator.

8. The system of Claim 1, wherein the meta-model comprises a plurality
10 of meta-model elements comprising one or more meta-model elements describing roles types for the supply chain collaboration service, one or more meta-model elements describing one or more dimensions for the supply chain collaboration service, and at least one additional meta-model element.

9. The system of Claim 1, wherein the meta-model comprises a plurality
15 of meta-model elements, the meta-model elements comprising one or more of the following:

role types;

dimensions each comprising a supply chain element;

20 dimensionalities each comprising a combination of supply chain elements;

access of particular role types to particular dimensionalities;

collaborative transaction types relative to particular dimensionalities;

shared operations visible to the at least two enterprises; and

temporal structures of collaborative transactions.

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10. The system of Claim 9, wherein a meta-model element specifying a collaborative transaction type relative to a particular dimensionality comprises one or more of the following:

- structure of the transaction;
- 5 data elements associated with the transaction;
- a state model describing a life cycle of the transaction;
- access that a role type has to data elements of the transaction relative to a state of the transaction;
- actions that a role type can execute on the transaction relative to a state of the
- 10 transaction; and
- whether the transaction is a system of record or whether synchronization must occur with another system of record.

11. The system of Claim 1, wherein the collaboration service designer is
15 operable to generate one or more GUIs for interaction between the collaboration service and an end-user of the collaboration service.

12. The system of Claim 1, wherein:
the system further comprises an electronic marketplace supporting a supply
20 chain collaboration platform (SCCP); and
the generated collaboration service is one of a plurality of collaboration services hosted by the electronic marketplace for execution using the SCCP.

13. A computer-implemented method for graphical design and automatic generation of supply chain collaboration services capable of understanding supply chain semantics, the method comprising:

providing a graphical user interface (GUI) for soliciting from a user
5 information regarding a design for a supply chain collaboration service and receiving from the user the solicited information regarding the design for the supply chain collaboration service;

soliciting from the user, using the GUI, information regarding the design for the supply chain collaboration service in a predetermined sequence of design steps,
10 particular information regarding one or more particular aspects of the design for the supply chain collaboration service being solicited at each design step;

receiving from the user, using the GUI, the solicited information regarding the design for the supply chain collaboration service in the predetermined sequence of design steps, the user being prevented from proceeding from a current design step to a
15 subsequent design step until the particular information regarding the one or more particular aspects of the design for the supply chain collaboration service being solicited at the current design step is received from the user;

generating a file based on the information regarding the design for the supply chain collaboration service received from the user, the file containing a meta-model
20 for the supply chain collaboration service;

accessing the generated file containing the meta-model for the supply chain collaboration service; and

using the meta-model for the supply chain collaboration service contained within the accessed file, automatically generating the supply chain collaboration
25 service, the generated supply chain collaboration service capable of understanding of supply chain semantics for an underlying supply chain.

14. The method of Claim 13, wherein the GUI is provided using a wizard.

15. The method of Claim 13, wherein the GUI generates a plurality of displays for presentation to the user, each display operable to solicit and receive from a user particular information regarding one or more particular aspects of the design for the supply chain collaboration service; and

5 each design step is associated with a particular display presented to the user, the particular display making one or more associated design options available to the user.

16. The method of Claim 13, further comprising accessing one or more
10 document type definitions (DTDs) to determine one or more particular design options to make available to the user through the GUI in connection with each design step.

17. The method of Claim 16, comprising making available to the user through the GUI a first design option allowing for creation of hierarchical
15 collaborative transaction types, a second design option allowing for creation of roles types associated with an underlying supply chain, and at least one additional design option.

18. The method of Claim 13, wherein the file comprises an Extensible
20 Markup Language (XML) file.

19. The method of Claim 13, wherein:

providing the GUI, soliciting from the user information regarding the design for the supply chain collaboration service, receiving from the user the solicited information regarding the design for the supply chain collaboration service, and
5 generating the file containing the meta-model for the supply chain collaboration service are all performed by a first software component running on a first computer system;

accessing the generated file containing the meta-model for the supply chain collaboration service and automatically generating the supply chain collaboration
10 service are both performed by a second software component running on a second computer system;

the first and second software components are separate from each other;

the first and second computer systems are physically distinct from each other;

and

15 the method further comprises storing, for later access, the file generated by the collaboration service designer containing the meta-model for the supply chain collaboration service.

20. The method of Claim 13, wherein the meta-model comprises a
20 plurality of meta-model elements comprising one or more meta-model elements describing roles types for the supply chain collaboration service, one or more meta-model elements describing one or more dimensions for the supply chain collaboration service, and at least one additional meta-model element.

21. The method of Claim 13, wherein the meta-model comprises a plurality of meta-model elements, the meta-model elements comprising one or more of the following:

- role types;
- 5 dimensions each comprising a supply chain element;
- dimensionalities each comprising a combination of supply chain elements;
- access of particular role types to particular dimensionalities;
- collaborative transaction types relative to particular dimensionalities;
- shared operations visible to the at least two enterprises; and
- 10 temporal structures of collaborative transactions.

22. The method of Claim 21, wherein a meta-model element specifying a collaborative transaction type relative to a particular dimensionality comprises one or more of the following:

- 15 structure of the transaction;
- data elements associated with the transaction;
- a state model describing a life cycle of the transaction;
- access that a role type has to data elements of the transaction relative to a state of the transaction;
- 20 actions that a role type can execute on the transaction relative to a state of the transaction; and
- whether the transaction is a system of record or whether synchronization must occur with another system of record.

25 23. The method of Claim 13, further comprising generating one or more GUIs for interaction between the collaboration service and an end-user of the collaboration service.

24. The method of Claim 13, wherein the generated collaboration service is one of a plurality of collaboration services hosted by an electronic marketplace for execution using a supply chain collaboration platform (SCCP) supported by the electronic marketplace.

25. Software for graphical design and automatic generation of supply chain collaboration services capable of understanding supply chain semantics, the software embodied in computer-readable media and when executed operable to:

provide a graphical user interface (GUI) for soliciting from a user information
5 regarding a design for a supply chain collaboration service and receiving from the user the solicited information regarding the design for the supply chain collaboration service;

solicit from the user, using the GUI, information regarding the design for the supply chain collaboration service in a predetermined sequence of design steps,
10 particular information regarding one or more particular aspects of the design for the supply chain collaboration service being solicited at each design step;

receive from the user, using the GUI, the solicited information regarding the design for the supply chain collaboration service in the predetermined sequence of design steps, the user being prevented from proceeding from a current design step to a
15 subsequent design step until the particular information regarding the one or more particular aspects of the design for the supply chain collaboration service being solicited at the current design step is received from the user;

generate a file based on the information regarding the design for the supply chain collaboration service received from the user, the file containing a meta-model
20 for the supply chain collaboration service;

access the generated file containing the meta-model for the supply chain collaboration service; and

using the meta-model for the supply chain collaboration service contained within the accessed file, automatically generate the supply chain collaboration service,
25 the generated supply chain collaboration service capable of understanding of supply chain semantics for an underlying supply chain.

26. The software of Claim 25, wherein the GUI is provided using a wizard.

27. The software of Claim 25, wherein the GUI generates a plurality of displays for presentation to the user, each display operable to solicit and receive from a user particular information regarding one or more particular aspects of the design for the supply chain collaboration service; and

5 each design step is associated with a particular display presented to the user, the particular display making one or more associated design options available to the user.

10 28. The software of Claim 25, further operable to access one or more document type definitions (DTDs) to determine one or more particular design options to make available to the user through the GUI in connection with each design step.

15 29. The software of Claim 28, operable to make available to the user through the GUI a first design option allowing for creation of hierarchical collaborative transaction types, a second design option allowing for creation of roles types associated with an underlying supply chain, and at least one additional design option.

20 30. The software of Claim 25, wherein the file comprises an Extensible Markup Language (XML) file.

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31. The software of Claim 25, wherein:

5 a first software component of the software running on a first computer system is operable to provide the GUI, solicit from the user information regarding the design for the supply chain collaboration service, receive from the user the solicited information regarding the design for the supply chain collaboration service, and generate the file containing the meta-model for the supply chain collaboration service;

10 a second software component of the software running on a second computer system accessing the generated file containing the meta-model for the supply chain collaboration service and automatically generating the supply chain collaboration service;

the first and second software components are separate from each other;

the first and second computer systems are physically distinct from each other;

and

15 the software is further operable to store, for later access, the file generated by the collaboration service designer containing the meta-model for the supply chain collaboration service.

32. The software of Claim 25, wherein the meta-model comprises a plurality of meta-model elements comprising one or more meta-model elements
20 describing roles types for the supply chain collaboration service, one or more meta-model elements describing one or more dimensions for the supply chain collaboration service, and at least one additional meta-model element.

33. The software of Claim 25, wherein the meta-model comprises a plurality of meta-model elements, the meta-model elements comprising one or more of the following:

- role types;
- 5 dimensions each comprising a supply chain element;
- dimensionalities each comprising a combination of supply chain elements;
- access of particular role types to particular dimensionalities;
- collaborative transaction types relative to particular dimensionalities;
- shared operations visible to the at least two enterprises; and
- 10 temporal structures of collaborative transactions.

34. The software of Claim 33, wherein a meta-model element specifying a collaborative transaction type relative to a particular dimensionality comprises one or more of the following:

- 15 structure of the transaction;
- data elements associated with the transaction;
- a state model describing a life cycle of the transaction;
- access that a role type has to data elements of the transaction relative to a state of the transaction;
- 20 actions that a role type can execute on the transaction relative to a state of the transaction; and
- whether the transaction is a system of record or whether synchronization must occur with another system of record.

25 35. The software of Claim 25, further operable to generate one or more GUIs for interaction between the collaboration service and an end-user of the collaboration service.

36. The software of Claim 25, wherein the generated collaboration service is one of a plurality of collaboration services hosted by an electronic marketplace for execution using a supply chain collaboration platform (SCCP) supported by the electronic marketplace.

37. A computer-implemented system for graphical design and automatic generation of supply chain collaboration services capable of understanding supply chain semantics, the system comprising:

5 means for providing a graphical user interface (GUI) for soliciting from a user information regarding a design for a supply chain collaboration service and receiving from the user the solicited information regarding the design for the supply chain collaboration service;

10 means for soliciting from the user, using the GUI, information regarding the design for the supply chain collaboration service in a predetermined sequence of design steps, particular information regarding one or more particular aspects of the design for the supply chain collaboration service being solicited at each design step;

15 means for receiving from the user, using the GUI, the solicited information regarding the design for the supply chain collaboration service in the predetermined sequence of design steps, the user being prevented from proceeding from a current design step to a subsequent design step until the particular information regarding the one or more particular aspects of the design for the supply chain collaboration service being solicited at the current design step is received from the user;

20 means for generating a file based on the information regarding the design for the supply chain collaboration service received from the user, the file containing a meta-model for the supply chain collaboration service;

means for accessing the generated file containing the meta-model for the supply chain collaboration service; and

25 means for, using the meta-model for the supply chain collaboration service contained within the accessed file, automatically generating the supply chain collaboration service, the generated supply chain collaboration service capable of understanding of supply chain semantics for an underlying supply chain.

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38. A computer-implemented system for graphical design and automatic generation of supply chain collaboration services capable of understanding supply chain semantics, the system comprising:

a collaboration service designer, comprising software operable to:

5 provide a graphical user interface (GUI) for soliciting from a user information regarding a design for a supply chain collaboration service and receiving from the user the solicited information regarding the design for the supply chain collaboration service, the GUI operable to generate a plurality of displays for presentation to the user, each display operable to solicit and
10 receive from the user particular information regarding one or more particular aspects of the design for the supply chain collaboration service;

solicit from the user, using the GUI, information regarding the design for the supply chain collaboration service in a predetermined sequence of design steps, particular information regarding one or more particular aspects
15 of the design for the supply chain collaboration service being solicited at each design step, each design step being associated with a particular display presented to the user, the particular display making one or more associated design options available to the user;

receive from the user, using the GUI, the solicited information
20 regarding the design for the supply chain collaboration service in the predetermined sequence of design steps, the user being prevented from proceeding from a current design step to a subsequent design step until the particular information regarding the one or more particular aspects of the design for the supply chain collaboration service being solicited at the current
25 design step is received from the user;

generate an Extensible Markup Language (XML) file based on the information regarding the design for the supply chain collaboration service received from the user, the XML file containing a meta-model for the supply chain collaboration service; and

communicate the XML file containing the meta-model for the supply chain collaboration service for access by a collaboration service generator; and the collaboration service generator, comprising software operable to:

5 access the generated XML file containing the meta-model for the supply chain collaboration service; and

10 using the meta-model for the supply chain collaboration service contained within the accessed XML file, automatically generate the supply chain collaboration service and one or more GUIs for interaction between the collaboration service and an end-user of the collaboration service, the generated supply chain collaboration service capable of understanding of supply chain semantics for an underlying supply chain.

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